

Bridge Inspection Report

00338
SH 14 Marion
over
CROOKED CREEK



Inspection Date:

Inspected By:

Inspection Type(s):

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Inspector:

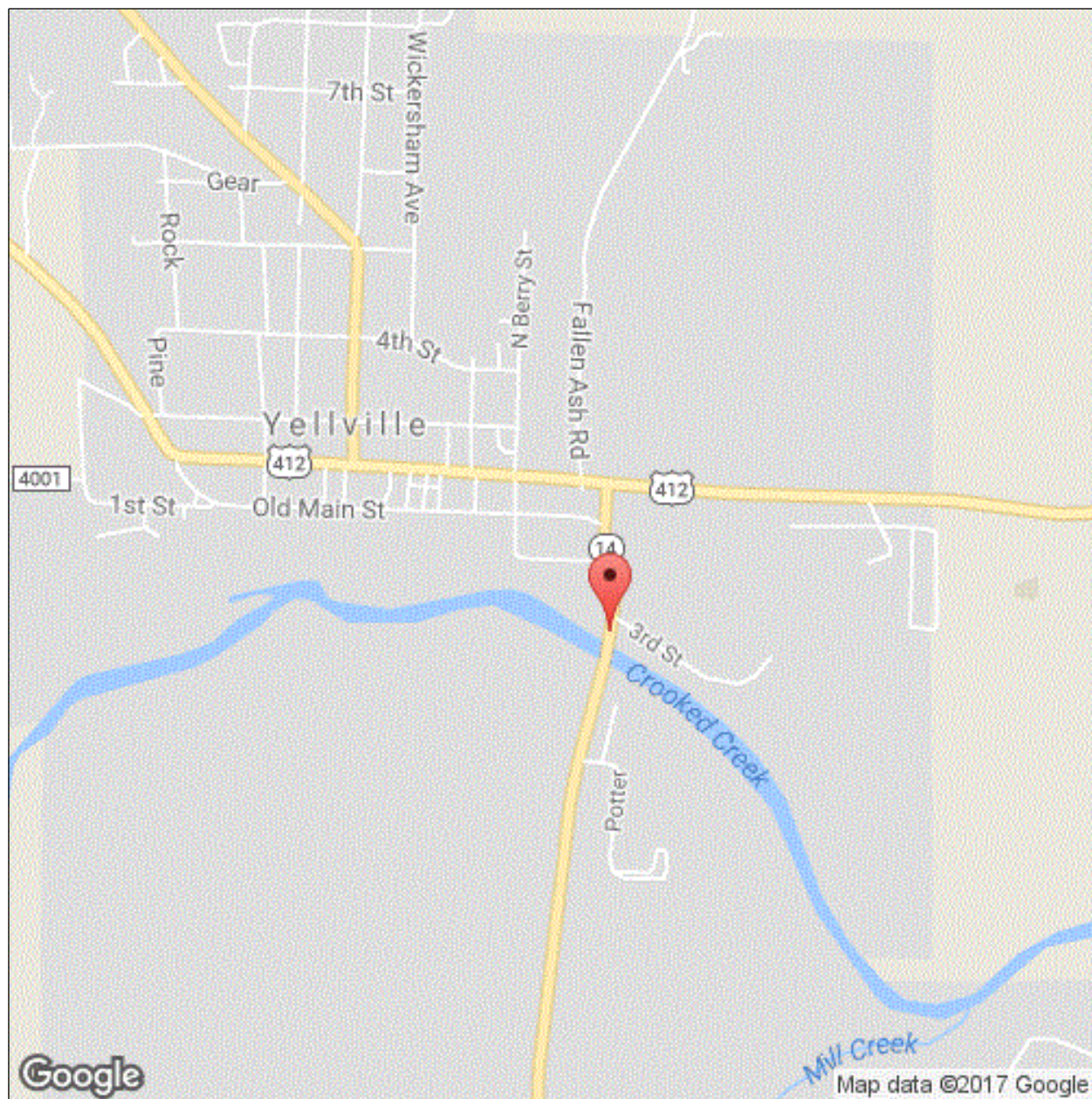
Structure Number: 00338

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Facility Carried: SH 14 Marion

Bridge Inspection Report

Location Map



Latitude: 36.22340

Longitude: -92.67964

Inspector:

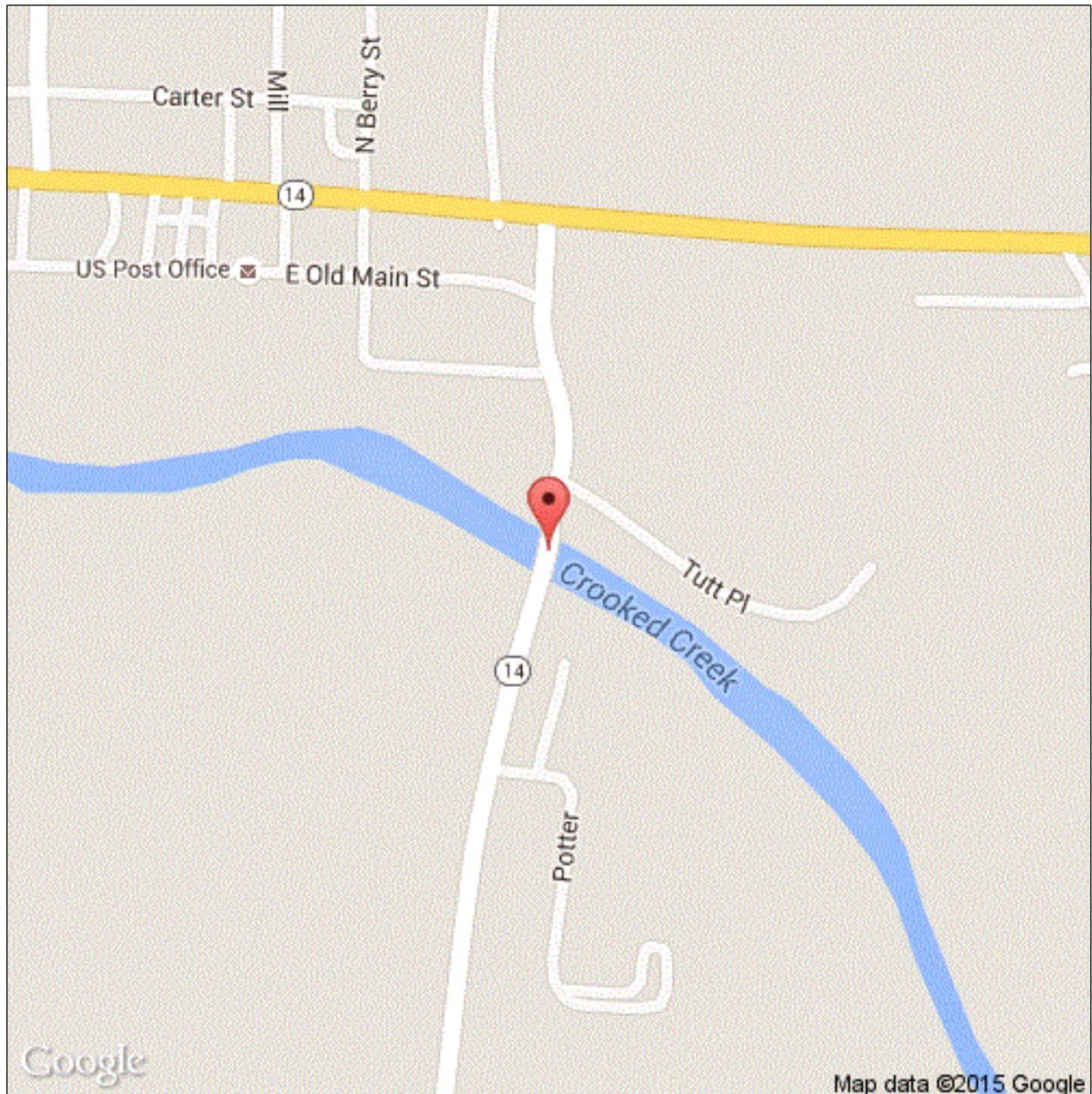
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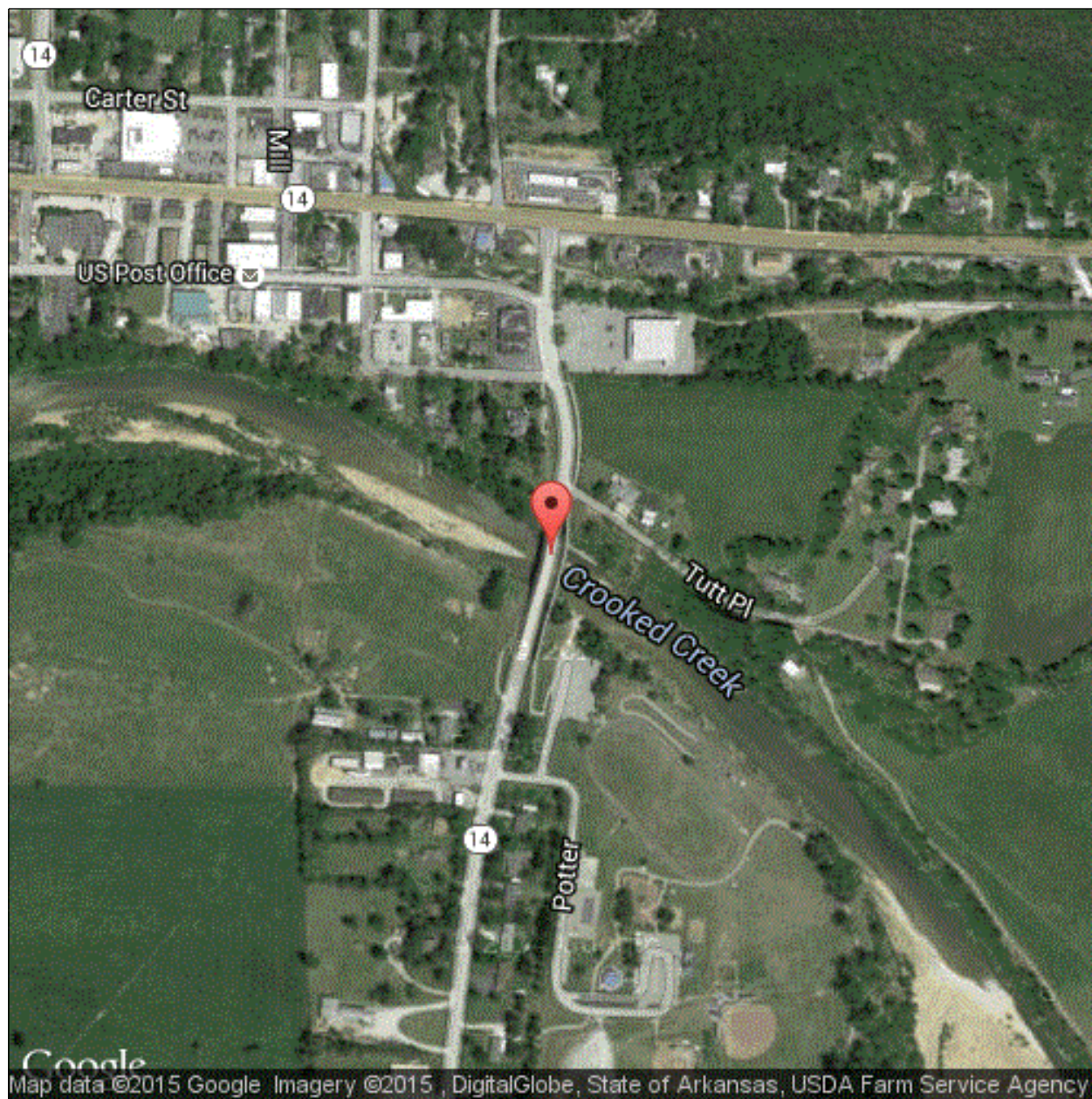
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Executive Summary

Structure is logged from North to South. Snooper is needed for the spans over the waterway. Steel bent spans are accessible with a ladder.

Sufficiency Rating Calculation Accepted by dlw at 2009-10-01 08:18:12

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Bridge Inspection Report

National Bridge Inventory

IDENTIFICATION		INSPECTIONS	
(1) STATE CODE	056 - Arkansas	(90) INSPECTION DATE	09/19/2017
(8) STRUCTURE NUMBER	00338	(91) DESIGNATED INSPECTION FREQUENCY	24
(5) INV. ROUTE (ON/UNDER)	1 3 1 14 0	(92) CRITICAL FEATURE INSPECTION	(93) CFI DATE
(2) HIGHWAY AGENCY	09 (3) COUNTY CODE 089	A. FRACTURE CRITICAL DETAIL	N
(4) PLACE CODE	74720	B. UNDERWATER INSPECTION	N
(6) FEATURES INTERSECTED	CROOKED CREEK	C. OTHER SPECIAL	N
(7) FACILITY CARRIED	SH 14 Marion		
(9) LOCATION	0.16 MI S JCT US 62-SH 14		
(11) MILEPOINT 0.160	(12) BASE HIGHWAY NETWORK 1		
(13A) LRS INVENTORY ROUTE	0000014030 (13B) SUBROUTE NUMBER 00		
(16) LATITUDE 36.22340	(17) LONGITUDE -92.67964		
(98A) BORDER BRIDGE CODE			
PERCENT RESPONSIBILITY	(99) BORDER BRIDGE STRUCT		
STRUCTURE TYPE AND MATERIAL		CONDITION	
(43) STRUCTURE TYPE, MAIN		(58) DECK	6
A) KIND OF MATERIAL/DESIGN: 3 - Steel		(59) SUPERSTRUCTURE 6	(60) SUBSTRUCTURE 6
B) TYPE OF DESIGN/CONSTR: 02 - Stringer/Multi-beam or Girder		(61) CHANNEL & CHANNEL PROTECTION 5	(62) CULVERT N
(44) STRUCTURE TYPE, APPROACH SPANS			
A) KIND OF MATERIAL/DESIGN: 3 - Steel			
B) TYPE OF DESIGN/CONSTR: 02 - Stringer/Multi-beam or Girder			
(45) NUMBER OF SPANS IN MAIN 2	(46) NUMBER OF APPROACH 6		
(107) DECK STRUCTURE TYPE 1	(108A) WEARING SURFACE 1		
(108B) DECK MEMBRANE 0	(108C) DECK PROTECTION 0		
AGE OF SERVICE		LOAD RATING AND POSTING	
(27) YEAR BUILT 1959	(106) YEAR RECONSTRUCTED 0000	(31) DESIGN LOAD	2
(42) TYPE OF SERVICE ON 1	UNDER 5	(63) METHOD USED TO DETERMINE OPERATING RATING	1
(28) LANES ON 02	UNDER 00	(64) OPERATING RATING	41
(29) AVERAGE DAILY TRAFFIC 5800	(19) BYPASS DETOUR LENGTH 29	(65) METHOD USED TO DETERMINE INVENTORY RATING	1
(30) YEAR OF AVERAGE DAILY TRAFFIC 2014		(66) INVENTORY RATING	25
(109) AVERAGE DAILY TRUCK TRAFFIC 1		(70) BRIDGE POSTING	5
		(41) STRUCTURE OPEN/POSTED/CLOSED	A
GEOMETRIC DATA		APPRAISAL	
(48) LENGTH OF MAX SPAN (ft.) 65	(49) STRUCTURE LENGTH (ft.) 432	(67) STRUCTURAL EVALUATION	5
(50) CURB/SIDEWALK WIDTHS (ft.) LEFT 1	RIGHT 1	(68) DECK GEOMETRY	2
(51) BRDG RDWY WIDTH CURB-TO-CURB (ft.)	24.0	(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL	N
(52) DECK WIDTH, OUT-TO-OUT (ft.)	25.0	(71) WATERWAY ADEQUACY	8
(32) APPROACH ROADWAY WIDTH (ft.)	21.0	(72) APPROACH ROADWAY ALIGNMENT	7
(33) BRIDGE MEDIAN 0	(34) SKEW (DEG.) 0	(36) TRAFFIC SAFETY FEATURE	
(35) STRUCTURE FLARED 0	(10) INV RTE, MIN VERT CLEAR (ft.) 99.99	36A) BRIDGE RAILINGS:	0
(47) TOTAL HORIZONTAL CLEARANCE (ft.)	24.3	36B) TRANSITIONS:	1
(53) VERTICAL CLEARANCE OVER BRIDGE ROADWAY (ft.)	99.99	36C) APPROACH GUARDRAIL:	1
(54) VERTICAL UNDER CLEARANCE (ft.)	N 0	36D) APPROACH GUARDRAIL ENDS:	0
(55) LATERAL UNDER CLEARANCE RIGHT (ft.)	N 99.9	(113) SCOUR CRITICAL BRIDGES	5
(56) MIN LATERAL UNDER CLEARANCE (ft.)	0	SUFFICIENCY RATING	54.1 STATUS 2
PROPOSED IMPROVEMENTS		CLASSIFICATION	
(75A) TYPE OF WORK PROPOSED 31	(75B) WORK DONE BY 1	(112) NBIS BRIDGE LENGTH	Y
(76) LENGTH OF STRUCTURE IMPROVEMENT (ft.)	470	(104) HIGHWAY SYSTEM OF THE INVENTORY ROUTE	0
(94) BRIDGE IMPROVEMENT COST (\$)	0	(26) FUNCTIONAL CLASSIFICATION OF INVENTORY ROUTE	06
(95) ROADWAY IMPROVEMENT COST (\$)	265	(100) STRAHNET HIGHWAY DESIGNATION	0
(96) TOTAL PROJECT COST	1910	(101) PARALLEL STRUCTURE DESIGNATION	N
(97) YEAR OF IMPROVEMENT COST ESTIMATE	2003	(102) DIRECTION OF TRAFFIC	2
(114) FUTURE ADT 7836	(115) YEAR OF FUTURE ADT 2028	(103) TEMP STRUCTURE	
		(105) FEDERAL LANDS HIGHWAYS	0
		(110) DESIGNATED NATIONAL NETWORK	0
		(20) TOLL	3
		(21) MAINTENANCE RESPONSIBILITY	01
		(22) OWNER	01
		(37) HISTORICAL	5
		NAVIGATION DATA	
		(38) NAVIGATION CONTROL	0
		(111) PIER OR ABUTMENT PROTECTION	1
		(39) NAV VERT CLEARANCE (ft.)	0
		(116) MIN NAVIGATION VERT CLEARANCE, VERT LIFT BRIDGE (ft.)	0
		(40) NAV HORIZONTAL CLEARANCE (ft.)	0

Inspector:

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Bridge Inspection Report

Element Inspection

	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
12 - Reinforced Concrete Deck	1- Ben.	10800	sq. ft.	0	9152	1648	0
	<p>The out to out of the deck includes 6" of the curb on both sides, the remainder of the out to out is bridge railing. The driving surface of the deck is showing wear for the full width and length of all spans.</p> <p>Right lane- The driving surface of the deck in the right lane has 770' of shallow delaminated or patched areas. The right gutter line of deck has delamination, scaling & spalls in all spans, 2' of the right gutter line is patched for most of the length of the bridge. The right lane has 807' of transverse hairline cracking. Span #1 has 5' of shallow exposed rebar in the driving lane, and 2' of exposed rebar in the right lane on the curb/deck. The right overhang in span #1 has 1' of exposed rebar.</p> <p>Left lane - the driving surface of the deck has 1636' of shallow delaminated or patched area. The left vertical face of the curb/deck in span #7 has 4' of shallow exposed rebar. The deck has 965' of transverse hairline cracks.</p>						
1080 - Delamination/Spall/Patched Area		1636		0	0	1636	0
1090 - Exposed Rebar		12		0	0	12	0
1130 - Cracking (RC and Other)		1772		0	1772	0	0
1190 - Abrasion/Wear (PSC/RC)		7380		0	7380	0	0
107 - Steel Open Girder/Beam	1- Ben.	2150	ft.	1899	0	251	0
	<p>Steel protective coating includes the diaphragms. The paint system has pin point and general rusting throughout with areas of heavy corrosion at the beam ends and bottom flanges under the joint areas. The fascia beams along the left and right sides of the structure have a welded rebar detail on the bottom flange for a drain extension. No cracking was noted.</p>						
1000 - Corrosion		251		0	0	251	0
515 - Steel Protective Coating		18675	sq. ft.	10572	7350	753	0
3440 - Effectiveness (Steel Protective Coatings)		8103		0	7350	753	0
202 - Steel Column	1- Ben.	20	each	15	3	2	0
	<p>(Piles measure 12" x 12" x 7/16" thick.)</p> <p>Steel piles at bent #4- piles #1,2 have corrosion with pitting for 6' at the top and general rusting through out. Piles #3,4,5 have light general rusting throughout.</p> <p>Bent #5 piles- have been repainted and a concrete encasement footing has been poured at the bases. No deficiencies noted.</p> <p>Bent #6 piles- have been repainted and a concrete encasement footing has been poured at the bases. No deficiencies noted.</p> <p>Bent #7 piles- have been repainted and a concrete encasement footing has been poured at the bases. No deficiencies noted.</p>						
1000 - Corrosion		5		0	3	2	0
515 - Steel Protective Coating		560	sq. ft.	460	88	12	0

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Bridge Inspection Report

Element Inspection

205 - Reinforced Concrete Column	1- Ben.	6	each	4	2	0	0
	Pier #1 columns- the left and right columns have minor vertical hairline cracks. Pier #2 columns- the tops of the left and right column footings are exposed with 18" of vertical face exposed, the channel bottom is solid rock in this location. No deficiencies noted in the columns. Pier #3 columns- no deficiencies noted.						
1130 - Cracking (RC and Other)		2		0	2	0	0
210 - Reinforced Concrete Pier Wall	1- Ben.	51	ft.	49	2	0	0
	Web walls are 17' wide x 3 locations. Pier #1 web wall- has a diagonal hairline crack at the top right corner. Pier #2 web wall- no deficiencies noted. Pier #3 web wall- no deficiencies noted.						
1130 - Cracking (RC and Other)		2		0	2	0	0
215 - Reinforced Concrete Abutment	1- Ben.	68	ft.	60	8	0	0
	Abutment #1 -has 5 vertical hairline cracks in the backwall and 1 vertical hairline crack in the bridge seat. Abutment #2- has 1 crack in the backwall and 1 crack in the bridge seat both in bay #4.						
1130 - Cracking (RC and Other)		8		0	8	0	0
234 - Reinforced Concrete Pier Cap	1- Ben.	178	ft.	68	69	41	0
	Pier #1 cap- has 6 vertical hairline cracks with a 3' long spall with rebar exposed in bay #4 and a full width delamination on the span #2 side. Pier #2 cap- has 3' of vertical hairline cracking and 10' of horizontal hairline cracking. Pier #3 cap- has 12' of vertical and horizontal hairline cracking with 1' of spalling with rebar exposed on the right cap haunch. Bent #4 cap- has 11' of vertical and horizontal hairline cracks beneath all bearing areas of the cap, with a 2' long delamination at the right cap end underside. Bent #5 cap- has 7' of vertical and horizontal hairline cracking beneath the bearing areas with a horizontal delamination. Bent #6 cap has 11' of vertical and horizontal hairline cracks, with 1' of deep spalling with rebar exposed at the left cap end. Bent #7- has 10' of vertical and horizontal cracks with 1' of spalling at the top right edge of the cap end.						
1080 - Delamination/Spall/Patched Area		36		0	0	36	0
1090 - Exposed Rebar		5		0	0	5	0
1130 - Cracking (RC and Other)		69		0	69	0	0
303 - Assembly Joint with Seal	1- Ben.	220	ft.	0	220	0	0
	The assembly joints are leaking for their full length at all locations causing corrosion on the bearings.						
2310 - Leakage		220		0	220	0	0

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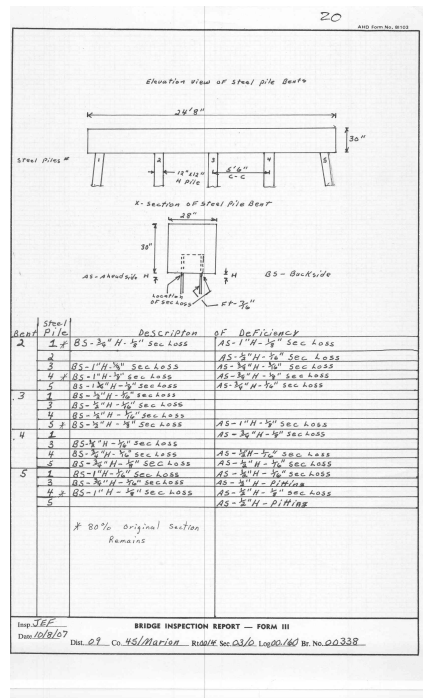
Element Inspection

311 - Movable Bearing	1- Ben.	40	each	0	1	39	0
Pier #1- all 5 moveable bearings at pier #1 are showing moderate corrosion especially on the masonry plates. Pier #2 moveable bearings- all 5 have corrosion with pitting especially on the masonry plates and anchor bolts. Pier #3 moveable bearings- all 5 have heavy corrosion with pitting. Bearings 1,2,5 are tilted 3,4 are level. Temp was 79degrees. Bent #4 all 5 moveable bearings have heavy corrosion with section loss. Bent #5 all 5 moveable bearings have corrosion with section loss at the rocker area. Bent #6- 4 of the 5 moveable bearings have corrosion with section loss at the rocker area. Bearing #3 is retrofitted and has a light rust coating. Bent #7- all 10 moveable bearings have corrosion with section loss at the rocker areas.							
1000 - Corrosion		40		0	1	39	0
313 - Fixed Bearing	1- Ben.	40	each	0	10	30	0
Abutment #1 fixed bearings- all 5 bearings have heavy corrosion with minor section loss. Pier #1 fixed bearings- all 5 have moderate corrosion. Pier #2 fixed bearings- all 5 have moderate corrosion. Pier #3 fixed bearings- all 5 have moderate corrosion. Bent #4 all 5 fixed bearings have corrosion with section loss on the anchor bolts. Bent #5 all 5 fixed bearings have a light rust coating with no section loss. Bent #6- all 5 fixed bearings have a light rust coating with no section loss. Abutment #2- all 5 fixed bearings have heavy corrosion with section loss.							
1000 - Corrosion		40		0	10	30	0
330 - Metal Bridge Railing	1- Ben.	864	ft.	0	864	0	0
The metal bridge railing has been repainted on the front side. The back side has a light rust coating. Protective coating is figured at 3' per foot.							
1000 - Corrosion		864		0	864	0	0
515 - Steel Protective Coating		2592	sq. ft.	1296	1296	0	0
3440 - Effectiveness (Steel Protective Coatings)		1296		0	1296	0	0

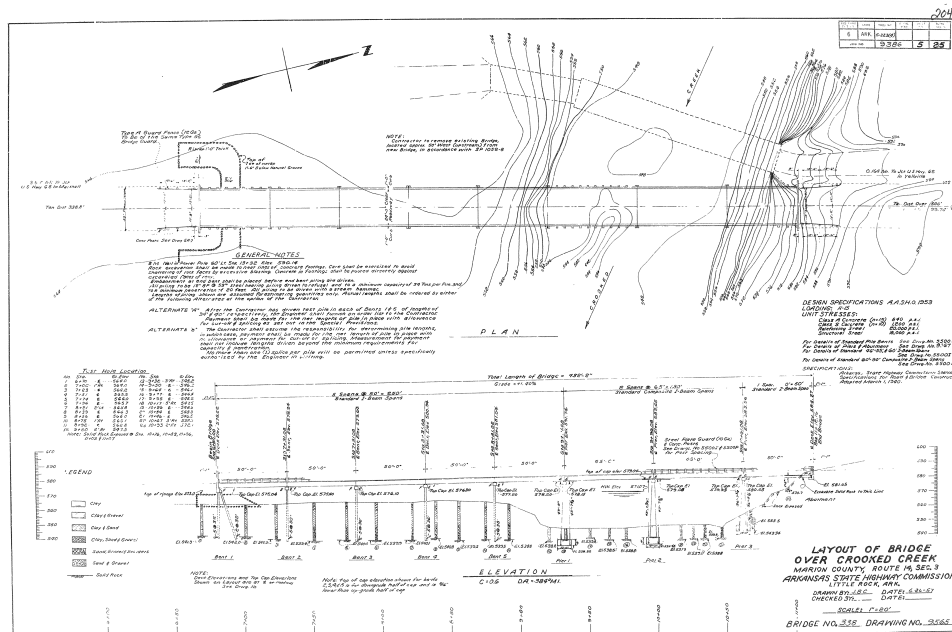
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Pictures



Description



Description

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Bridge Inspection Report

Pictures

PHOTO 2

Description

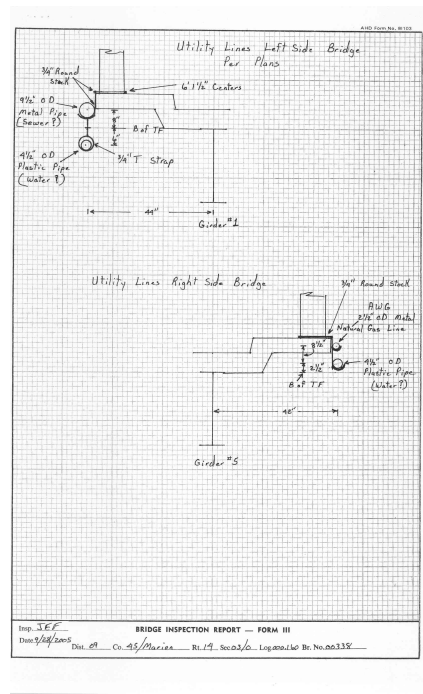


PHOTO 2

Description

Inspector:

Inspection Date:

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Bridge Inspection Report

Sketches

Inspector:

Structure Number: 00338

Inspection Date:

Facility Carried: SH 14 Marion

Bridge Inspection Report

Maintenance Needs

Date Reported: 09/15/2015

Priority: D - Routine

Work Code:

Deficiency Description:

Underside of pier #1 spalled with rebar exposed.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description Spall with exposed rebar at the right cap haunch of pier #3.

Inspector:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 9/12/2013 12:00:00 AM

Priority: D - Routine

Work Code:

Deficiency Description:

The right end of caps at piers #1 and #3 and bents #4,6,7 have delaminations.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Date Reported: 09/15/2015

Priority: D - Routine

Work Code:

Deficiency Description:

Spall with rebar exposed at the right overhang drain area of span #1.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Date Reported: 09/15/2015

Priority: D - Routine

Work Code:

Deficiency Description:

Horizontal delamination in bent #5 cap under girder #2.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Inspector:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 09/15/2015

Priority: D - Routine

Work Code:

Deficiency Description:

Pier #1 has a spall with rebar exposed on the back side of the cap and a large 3' spall with rebar exposed in the top edge of the cap in bay #4.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Monitor



PHOTO 1 Description

Inspector:

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Bridge Inspection Report

Maintenance Needs

Date Reported: 09/15/2015

Priority: D - Routine

Work Code:

Deficiency Description:

Bent #3 right cap end has a spall with rebar exposed.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Stage: Open



PHOTO 1 Description Spall with rebar exposed at left cap end of bent #3

Stage: Monitor



PHOTO 2 Description

Inspector:

Structure Number: 00338

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Bridge Inspection Report

Maintenance Needs

Date Reported: 09/19/2017

Priority: D - Routine

Work Code:

Deficiency Description:

The deck in all spans has sealable hairline transverse cracks with shallow delaminations.

Work Description:

Date Repairs Completed:

Maintenance Comments:

Date Reported: 09/19/2017

Priority: D - Routine

Work Code:

Deficiency Description:

The assembly joint seals are leaking in all locations, causing corrosion on the bearings and beam ends.

Work Description:

Date Repairs Completed:

Maintenance Comments:
